

Medical Adventure in South America

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DURING A SIX WEEK PERIOD in the summer of 1981 I rediscovered the rich personal and professional rewards of sharing medical skills with those in need. An odyssey that began with a volunteer assignment in a Catholic mission hospital in Georgetown, Guyana, continued by sheer chance on the streets of La Paz, Bolivia, and aboard an antiquated train en route to the Inca capital of Cuzco, Peru.

Guyana, an Amerindian word meaning *land of many waters*, aptly describes a tropical country quadrisected by three major rivers and bordered on its north coast by 270 miles of South Atlantic Ocean (Figure 1). Granted independence by Great Britain in 1966, Guyana has been cast in the role of a Second World nation,* neither impoverished of natural resources nor yet fully capable of managing its own affairs. Misguided economic policies have brought this fledgling Caribbean country close to disaster, propelling substantial numbers of professionals and technicians into flight to more stable and prosperous areas of the western world. The exodus of physicians has left Guyana with an enormous deficit in competent medical personnel and services, a circumstance that prompted the St. Joseph Mercy Hospital to seek outside help.

The population of Guyana is comprised of two major groups, East Indians (53 percent) and blacks (32 percent). About 11 percent are mixed. The blacks were brought from Africa as slaves to work the plantations of European masters. When

they were liberated in the early 19th century, overpopulated India provided their replacements. Thousands of its citizens were indentured with the lure of work and ultimate economic independence. The only native group, the Amerindians, whose Asian origins are thought by local anthropologists to be shared with North American Indians, rejected in turn the civilizing influences of the Dutch, French and English colonists, retreating to the interior forests and savannahs to pursue more traditional sedentary and nomadic existences. Much smaller numbers of Portuguese and Chinese make up the remainder of Guyana's permanent population.

Georgetown, capital of Guyana, has a population of less than 200,000. The vestiges of its once handsome exterior remain in its lovely wood homes, stilted for protection against the wet season floods and to exploit trade winds blowing inland as mitigators of an otherwise enervating equatorial climate (Figure 2). Tropical plants, often fragrant and brightly colored, are irrepressibly luxuriant. Boulevard grasses are neatly cropped by nomadic cows, horses and goats, freely roaming the city's streets. The entire city is traversed by an empoldering system of irrigation and drainage canals (Figure 3) introduced by the early Dutch settlers. Beyond flood control regulated by *Kokers*, the Dutch word for sluice gates, these canals add a decorative touch to the flat, coastal plain. Transportation is provided by buses, shared taxis and private autos, all operating erratically as imported replacement parts become ever scarcer and more costly. It is the marketplace, however, that stimulates the senses and reveals the vitality of the city. Every ethnic group and social class walk its refuse-carpeted paths,

*I am defining Second World countries as those neither industrially developed in the American/European/Japanese sense nor impoverished or underdeveloped as are nations in Central America, Africa and Asia.

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accepting the risks of jostling, slipping and the nimble fingers of pickpockets. The sounds of hawking vendors carry the message of food for the table in English, Hindi, Urdu and a variety of regional dialects. Sacks and baskets arriving empty leave the market overflowing with home-grown edibles.

The distribution of health care services in urban Guyana differs little from that in First World countries. The affluent make exclusive use of the few remaining private practitioners and private

hospitals. Unskilled and skilled workers, insured through company or government programs, use both private and public facilities, the choice dictated both by convenience and the practice habits of physicians. The indigent have no alternative to the public clinics. The St. Joseph Mercy Hospital (Figure 4) has 120 medical and surgical beds. Its widely accepted reputation for cleanliness and for providing the best health care in the country may not be undeserved. Indeed, many of its patients come from long distances, deliberately



Figure 1.—The North-east Coast of South America.



Figure 2.—Houses built on stone pillars in Georgetown for protection against flooding.

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avoiding government and other private hospitals within easier reach. I saw many sick patients wearied by a four-hour bus ride from distant villages. My daily assignment was the outpatient service, shared with one internist and one generalist, both East Indian, trained in the British Isles. Sister Mary Liguori, a certified, American-trained surgeon, is the hospital's only full-time, permanent physician. One obstetrician, one ophthalmologist and one otolaryngologist, all part-time employees, compose the remainder of the medical staff.

The conditions under which I worked were far less spartan than those I knew in rural West Africa,¹ yet inadequate by western standards. I had a small desk whose surface was papered with a large selection of insurance, prescription and sick-leave forms, each serving different health care programs. The need for the latter forms quickly became apparent when almost every adult I saw requested at least three days of paid leave, a request that bore no relationship to the illness. The examining table was a hard bench



Figure 3.—One of the empoldering canals in Georgetown.



Figure 4.—St. Joseph Mercy Hospital.

without stirrups. Illumination for all orifices had its source in a standard pocket penlight whose batteries generated an ever alternating current. A single sheet covered the table, scented and soiled by the warm bodies of 20 or more patients examined in each morning and afternoon session. There were neither gowns nor drapes. The needle of a wall-mounted sphygmomanometer rested disconcertingly far from zero. One otoscope was available whose vintage would be prized in any museum display of ancient medical instruments. A single stainless steel speculum, washed with soap and water after each use, served all women. A few shortened, roughly planed tongue blades completed the inventory of my working equipment. A noisy, rotating fan attached to the wall left me alternately windblown or uncomfortably warm and invariably straining to hear the spoken word.

Those tropical parasites with alien names that had become so familiar to me in rural Africa were comparatively rare in Georgetown. Only small foci of endemic malaria survive along the coastal zone. *Culex* and *Aedes* mosquitoes, hosts of *Wuchereria bancrofti*, are abundant. Filariasis in its acute and chronic forms is a common outpatient diagnosis, usually confirmable by identifying microfilariae in a 10 PM specimen of blood. This nematode, together with an occasional case of ascariasis and enterobiasis, were my essential links with tropical medicine. Leprosy is endemic in Guyana. Most cases are managed by an English dermatologist at the National Hospital in Georgetown. I saw one male leper with old, extensive tissue loss of digits and nose and referred for biopsy three young adults with skin pigment and neurologic changes that are the early heralds of leprosy. However, the most common illnesses of urban Guyanese are not different from those seen in the United States: obesity, respiratory infections, allergies, hypertension (among all races), diabetes, gastrointestinal dysfunctions, trauma, urinary tract infections and the sexually transmitted diseases, among others. In a similar equatorial climate in far more primitive areas of West Africa with its legion of parasitic pathogens, I had observed that most of the diseases common to temperate and subtropical United States are also widespread there.

It was neither the absence of modern medicine's computerized diagnostic gadgetry nor the age of available equipment that posed the major obstacle to offering care of good quality. In the bowel

dysfunctions seen so frequently in older patients, for example, stools negative for occult blood only fleetingly assuage concerns for an underlying neoplasm. Grievously missed were a sigmoidoscope and a radiologist to direct the filming and offer interpretations of barium studies done by a technician. Films were always of inconstant quality. Their readings devolved upon the referring physicians, none of us trained in diagnostic radiology. The hospital laboratory is adequate for the common problems in hematology and bacteriology, less so for chemical analyses. Thus, its enzyme determinations include only amylase and SGOT, a limitation which, with the unpredictable availability of a technologist after 5 PM, I found restricting in managing the frequently presenting complaint of chest pain. In addition, the laboratory is unable to titer the VDRL or to do a specific treponemal test for syphilis or a culture for the gonococcus. In an urban community with few rigid constraints on sexual behavior, frequent epidemiologic treatment for these venereally transmitted infections was unavoidable. This concept of preventive therapy appeared to be unfamiliar to the local practitioners of medicine.

The Mercy Hospital has a single operating room shared five days a week among two general surgeons and the two part-time specialists. For general emergencies occurring during hours assigned to the latter surgeons accommodation is possible but disruptive of schedules and of feelings. Resolution of that dilemma often required transfer of a patient to another hospital. The one constant lament of all of us was the chronic lack of essential supplies. Shortages included dressings, parenteral fluids, antibiotics and a host of other medications. There is no blood bank in Guyana. Families are expected to provide needed blood on call. Of greater concern to me in the outpatient section were the always inadequate quantities and erratic availability of drugs with specific pharmacologic utilities. Aqueous procaine penicillin had not been seen for a year. On an almost daily basis my calls or visits to the pharmacy uncovered very roughly equivalent substitutions for my prescriptions among a haphazard assortment of American, French and British products. While the essential ingredient may be identical, brands differed in concentrations and unwanted chemicals were often incorporated into a single preparation. No less distressing was the discovery that many items dispensed daily were outdated by many months, a practice understandably born of necessity but al-

ways raising the question of loss of potency. In truth, there are no alternatives in Guyana. All drugs are ordered by a central government agency whose sense of urgency seems to bear little relationship to the needs of health care providers. On occasion a timely gift from the United States or Europe helped to maintain some essential service, persuading the Sisters of Mercy of the efficacy of their prayers.

Having heard so often the refrain, "I don't want to go back to the government hospital," I needed but a single visit to the mammoth national hospital in the capital to understand the reluctance of many Guyanese to make use of its services. Its wood buildings have suffered the inexorable decay of time and humidity and the almost irremediable insult of neglect. There is little here to invite the sick through its portals. For the courageous or the desperate, entry is less than reassuring for inside walls and floors are no more attractive than its exterior surfaces. On all wards beds are packed tightly, allowing little room for passage much less for elementary privacy. On the orthopedic floor multiple casted limbs in a single bed testified to the double occupancy policy dictated by demand. I observed the same bed-sharing among gynecologic patients. However, on my one visit to this hospital I was not privy to the ultimate in inpatient intimacy, three bodies in a standard hospital bed. This not so rare occurrence was reported to me by my official nurse guide. With admirable, if reluctant honesty, she admitted that drugs and supplies are often not provided for patients and that the inconstancy of replenishment of all medical items plagues this largest Guyanese hospital no less than the private institutions. A hasty review of several randomly selected medical charts showed (1) the absence of historical and system review data, (2) a paucity of daily rounds notes by physicians and (3) heavy prescriptive ordering of "symptomatic" medications compounded of multiple ingredients. While nurses were present in appropriate numbers, doctors were scarce among several wards, each with dozens of beds. Breakdowns in equipment, unrepaired for long intervals, are frequent. Raised on pillars that support all buildings in Georgetown, the underbelly of piping is obscenely exposed. The drip of fluid leaks left their small ponds on dirt or concrete surfaces, with scattered rivulets sinuously seeking the network of drainage ditches coursing through the grounds. As we walked among the

buildings, an occasional foul stench suggested that excretory sewage was not always fully contained.

Nurses trained by the government are required to serve in national hospitals for several years. Those graduating from St. Joseph Mercy Hospital are free to choose among any of the nation's health care facilities. Recently passed legislation, however, compels all nurses to give some service to a government health facility. I had not been in Guyana long before I was deluged with requests by nurses for information about working conditions and opportunities in the United States. Are nurses needed? Do many of them specialize? What are the choices for an inexperienced nurse? How much do nurses earn? Do their incomes support a comfortable life-style? The economic basis for these inquiries was quickly apparent. Only a few years ago 40 percent of all Guyanese earned less than \$G300 yearly and only 10 percent had annual incomes exceeding \$G500. At that time the US dollar was worth about two local dollars. Today the exchange rate is three to one. Nurses in private hospitals with 15 or more years of experience earn the equivalent of about \$150 (US) per month. The incomes of private practitioners of medicine were never revealed to me. Their homes and life-styles suggested few privations. Physicians employed by the state manage a comparatively comfortable existence but with few opportunities for travel either for professional or recreational purposes. Mercy Hospital offers its contract physicians from abroad a salary of about \$700 per month, compensation only modestly improved by the provision of low rent housing.

There is no medical school in Guyana. Most of its black physicians have been trained in the West Indies or, more recently, in Cuba. East Indian doctors more often have attended schools in the British Isles or in Canada. The former are largely employed in government facilities, the latter in private practice. There is also an expatriate group invited by the Ministry of Health to ameliorate the shortage created by the flight of native physicians. These come primarily from the Philippines, Korea, India and Cuba. In Guyana's hospitals there are no organized departmental meetings that serve a teaching purpose. No professional committee exists within private hospitals charged with establishing, much less monitoring, standards of practice. The few hospital libraries I saw possess old texts and journals, the majority cast off by members of the staff. An exceedingly

tight national economy with rigid controls of foreign purchases discourages subscriptions to professional journals. In such an indolent academic climate it is not surprising that autopsies are almost never done. When done, the family of the deceased must provide the glass jars for tissue specimens. Limited and unreliable refrigeration does not aid the cause of postmortem examinations. At mortuary entries there is a removable sign that seemed in constant motion during my stay: "Refrigerator Out of Order. Please Take Body Elsewhere."

I had few professional contacts with the aboriginal population of Amerindians, of whom there are about 40,000 left. Only a handful live in the developed coastal zone. One 55-year-old man with chronic filarial lymphangitis of both legs and scrotum shared with me some of his early health experiences with a tribal shaman. Village healing is still widely practiced and accepted by the Amerindians insulated from urban centers. It is a skill compounded of experience that begins early in life with the teachings of an established practitioner. Encompassing an understanding, however unsophisticated, of the pharmacology of plant and animal substances, it also demands a large measure of faith. The medicine man is held in high esteem, functioning as a supernatural power able to overcome disease, fear and evil influences. For example, in Crawak villages the *semichichi* can perform the *jawuhu* ritual, blowing on pieces of broken bottle, thorns and poisonous materials, "sending" these into the body of his client's aggrieving enemy. However irrational to the westerner, the effects on the intended victim are unmistakable: organ dysfunction severe enough to disable and, at times, even death. Plants provide the most important sources of healing agents. Chewing nutmeg heals speech impairments. *Wiriwiri* peppers thoroughly cleanse the clogged colon. Creole women use calabash leaf for inducing abortion; their men drink *capadulla* bark tea for improving potency. For contraception a piece of ropey vine, *buyan*, remains effective so long as it rests under a woman's bed. Snake bites are treated with crushed worms applied to the puncture wound and also eaten. Lime juice for the common cold has its counterpart in the popular US use of ascorbic acid megatherapy. My informant admitted that before migrating to Georgetown from the interior, long experience with his village doctor had been both satisfying and revealing of his healing limitations.

As a short-term guest at Mercy Hospital I was ripe for exploitation as the visiting "professor." While I may have exposed the students to some fresh insights into a variety of community health problems, it was I who came away enriched by our classroom discussions. Alcoholism is epidemic in Guyana, its etiologic roots no less complex than in our own society. The nonalcohol drug scene deserves but a brief footnote in the playbill of the drama of drug abuse. Cannabis products, for example, are available but their use is limited. The hard drugs appear to be far more familiar to Guyanese by name than by use. In the area of marital relationships my observations that classical psychosomatic complaints were notably more frequent among married East Indian women than among blacks, led to some forthright comments about traditional Hindu inequalities between the sexes. In searching for explanations my questioning of patients elicited the reluctant admissions of

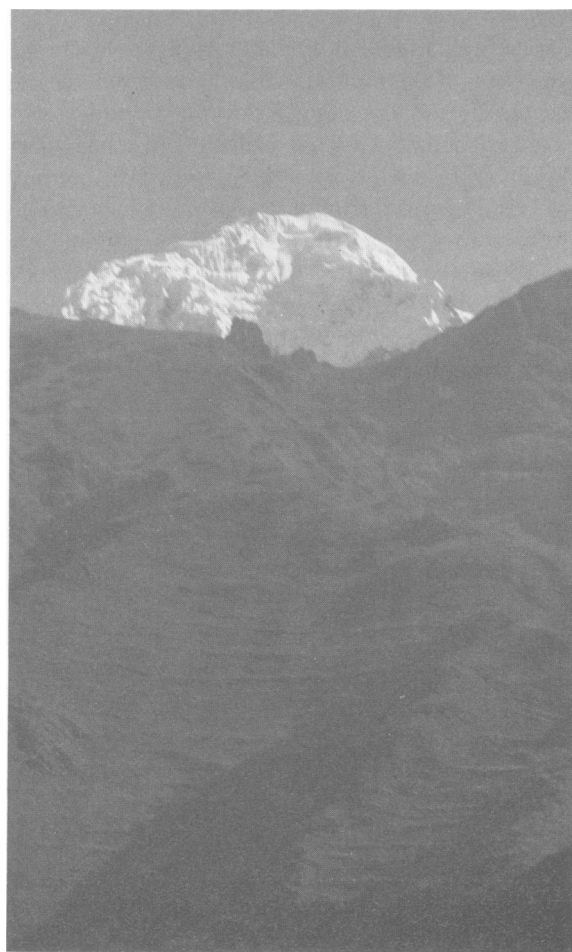


Figure 5.—Mt. Veronica, a 23,000-foot Andean peak in Peru.

marital discontent and frustration. Specific manifestations varied but the common cry was the gross disparity in rights between husband and wife. What emerged from the classroom talk with the young East Indian and black students, including one young man, was an acknowledgement of the frequency of repression of the wife by Indian husbands. Moreover, all of them agreed that for the woman escape from an intolerable marriage through divorce is almost impossible. Hindu orthodoxy compels permanent fidelity to a husband. Not even in death is there mitigation of a wife's expected loyalty to her spouse. Today, in urban centers in India and in Georgetown, four generations removed from indentured forebears, distance, time and exposures to other cultures have begun to sap the force of this and other centuries-old customs.

When I bade farewell to the Sisters of Mercy to begin my brief journey through the Andes, I had assumed that my professional involvements had ended until my return home, that only the serenity and stunning vistas of towering snow-laden mountains lay ahead (Figure 5). In the Indian marketplace of La Paz, Bolivia, I discovered the *Mercado de los Brujos*, the Sorcerer's Market. It is physically separate from the vast sprawl of street vendors blanketing an old, hilly quarter of that highest of all world capitals. Curiosity, not my search for relief from a nagging headache generated by the rarefied atmosphere at 11,000 feet, led me to question the medicinal

merchants about traditional Indian medical practices. The healing skills there are an intrafamilial male monopoly, passed through succeeding generations by word of mouth. Since I was not sworn to silence, I feel no sense of betrayal in sharing but two of their numerous diagnostic secrets that should endear American physicians to their time and cost conscious patients. In each case it is the prognosis that is revealed by the procedure. In the first the blood of a freshly killed rabbit is poured on the torso of the patient. By its color and odor changes this test rapidly and accurately establishes the gravity of an illness. For the squeamish there is an alternative approach to the same objective and much preferred for its widely heralded sensitivity. The healer places a fresh hen's egg in the patient's axilla, either left or right. Allowing 10 to 15 minutes for critical chemical reactions, he then requests that the egg be squeezed between arm and chest wall until the shell breaks. The darkness of its contents can be reliably correlated with the seriousness of disease. The objections I raised to these methods in the interest of a rare, overly fastidious person failed utterly to move my interviewee. The street patient, armed with an Indian healer's instructions, seeks out a trusted pharmacist whose impressive display of plant and animal products in an endless variety of colors, sizes and forms (Figure 6) covers a huge blanket laid out on a sidewalk or street. The medicinal vendor deals only in cash, the healer only in barter. His preferred currency is food. If his pre-



Figure 6.—Llama fetuses for sale by a medicinal vendor in the Sorcerer's Market of La Paz.

scriptive skills relieve distress, a gift consonant with symptomatic improvement is offered in addition.

Although La Paz has its own medical school and teaching hospital, Indians most often choose first to consult a traditional healer. This route to health care is culturally determined, not a rejection of modern medical practice. The one widely bruited complaint about the newer medical care system is that "the doctor always wants me to return for more tests," a lament not unknown in the United States. My interviewees made no allegations about the inferior quality of current medical teaching. What was clearly implicit in their comments was the feeling that the system fails its students when they cannot make accurate diagnoses in a single, brief visit.

Graduates of the national medical school are required to serve their country as physicians for one year. Rural Bolivia, very different from rural

United States, attracts no permanent medical settlers. The lures of a house, a furnished clinic, a nurse and an ambulance, together with a monthly stipend of \$150, engage few candidates. Brewing at the time of my visit there was a doctors' strike against the government's salary schedule. An acute problem in Bolivia is the plethora of physicians in the few major urban and suburban areas. Unemployed doctors in La Paz are not rare. This urban excess is undiminished by a 40 percent rate of specialization among young graduates who must find their advanced training programs abroad. Having done so, the majority discover foreign practice pastures to be far greener and often choose not to return home. Those who do still find their already surfeited cities irresistible.

From Puno, Peru, on the north shore of enormous and exquisite Lake Titicaca, I began an 11-hour marathon by train across the Peruvian Altiplano (high plateau) to Cuzco, famed center of Incaic civilization. It is also the gateway to mystical Machu Picchu, an architectural gem in a natural setting of incomparable beauty (Figure 7). With the Peruvians I shared the ancient, noisy carriages pulled by one wheezing, coal-fired engine, the dirty, primitive toilets without paper or wash water, and the food prepared and served by unwashed hands.

I was not fated to make that journey without medical event. At a village two hours out of Puno a 27-year-old Indian woman entered my carriage. She had an infant shawled to her back, one 5- and one 6-year-old boy held in tandem with one hand and a heavy bundle of clothes carried in the other. She was no less impoverished than all rural Indians. Briefly, she told me that she was visiting her husband who had recently found work in Cuzco but was now in a hospital for an unknown disease. It was shortly after lunch when I noted that the 6-year-old boy's face was deeply flushed. His skin felt unmistakably fevered. I learned from his mother that he had complained of feeling cold the preceding night and had awakened that morning with pain in his left chest. That was the entire story. With mother's approval and without a Peruvian license to practice medicine I lifted the boy to the table. Between the din of the train and the babble of multilingual passengers, my age-impaired hearing caught the crackle of inspiratory rales at the left base. A profoundly grateful mother accepted my traveler's supply of ampicillin for her son and instructions for follow-up at

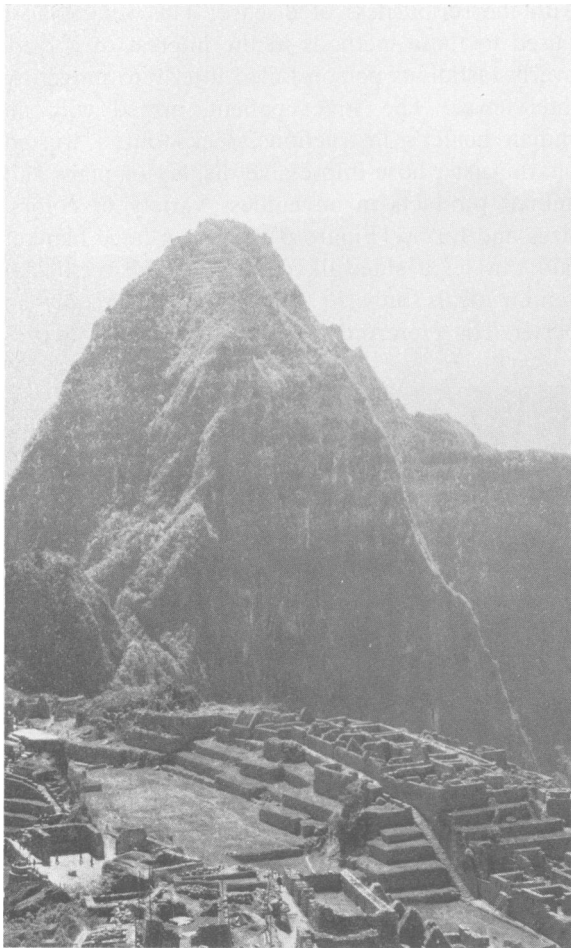


Figure 7.—The setting for Machu Picchu (Old Mountain)—Inca religious center, fortress or both.

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the hospital in Cuzco. She informed me that in her village there was neither a physician nor a nurse. Had she not been en route to the city, she said, she would not have consulted her village healer until convinced that the boy was really sick.

This experience in international medicine was very different from that in equatorial Africa. With fewer exotic parasites to challenge me in Guyana, many intimate interpersonal exposures offered more than compensating rewards. Though sepa-

rated not only by the broad Atlantic Ocean but as well by language, race, customs and, indeed, by centuries of time, Africa and South America are joined by people who share the same, often desperate, need for modern health care. Therein lies the essential ingredient of a satisfying medical adventure.

REFERENCE

1. Minkowski WL: An American physician in rural West Africa. *West J Med* 1981 Mar; 134:267-272

Medical Practice Questions

EDITOR'S NOTE: From time to time medical practice questions from organizations with a legitimate interest in the information are referred to the Scientific Board by the Quality Care Review Commission of the California Medical Association. The opinions offered are based on training, experience and literature reviewed by specialists. These opinions are, however, informational only and should not be interpreted as directives, instructions or policy statements.

Bone Densitometry

QUESTION:

Is bone densitometry an effective diagnostic tool?

OPINION:

It is the opinion of the Advisory Panels on Internal Medicine and Orthopedics that bone densitometry is an effective tool for measuring bone density and, therefore, is an accurate and sensitive means of following changes in density during the course of disease. It may be used as an adjunct to diagnostic procedures for osteoporosis and allied conditions. Because its use must be well controlled to be accurate and the equipment necessary for the procedure is moderately expensive, the indications for use should be documented.